Dockets
222

FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

26 FEB 1992

IN REPLY REFER TO:

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EX PARTE OR LATE FILED

92-9

RECEIVED

FEB 28 1992

Federal Communications Commission
Office of the Secretary

Honorable Lloyd M. Bentsen
United States Senator
961 Federal Building
Austin, Texas 78701

Dear Senator Bentsen:

Your letter to Chairman Sikes, on behalf of your constituent, Mr. Nick Flores, Operations Department Manager of City Public Service of San Antonio, has been referred to me for reply. Mr. Flores expresses concern regarding proposals to reallocate frequencies at 2 GHz and the impact reallocation would have on such electric and gas utilities.

On January 16, 1992, the Commission adopted a Notice of Proposed Rule Making (Notice) in ET Docket No. 92-9 that proposes allocating 220 MHz of 2 GHz spectrum for use by providers of emerging technologies. With regard to licensees currently using portions of this spectrum, the Commission proposed to permit state and local government licensees, including public safety agencies, to continue indefinitely their current operations on a primary basis. Other users would be permitted to continue their current operations on a primary basis for a period of time to be established — such as 10 or 15 years. Subsequently, they would be permitted to continue operating only on a secondary basis. Expansion and new microwave systems would be permitted on a primary basis only at higher frequencies. In conjunction with the Notice, the Commission released a staff study of existing use of this spectrum and identified other suitable frequencies available for this purpose. To further facilitate accommodation of the competing demands for this spectrum, the Commission also proposed to permit negotiation of financial arrangements between existing licensees and parties proposing new services. Such an approach would facilitate access to this spectrum for services employing emerging technologies.

These provisions are intended to prevent disruption to the communications of the existing licensees, yet still provide the spectrum needed by U.S. companies to develop new and innovative telecommunications products and services and bolster U.S. competitiveness in world telecommunications markets. An example of one such new proposed service is the personal communications service (PCS), which the Commission is addressing concurrently in GEN Docket No. 90-314.

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List A B C D E

The needs of the existing 2 GHz users are of importance to the Commission, and are being taken carefully into consideration. Please be assured that Mr. Flores' concerns will be taken into account before a final determination is made, and for that purpose, I am making his letter part of the record in the two dockets discussed above, ET Docket No. 92-9 and GEN Docket No. 90-314.

Sincerely,

Thomas P. Stanley

Thomas P. Stanley
Chief Engineer

LLOYD BENTSEN
TEXAS

OFT
96-314

COMMITTEES:
FINANCE
COMMERCE, SCIENCE, AND TRANSPORTATION
JOINT ECONOMIC
JOINT COMMITTEE ON TAXATION

United States Senate

WASHINGTON, DC 20510-4301

February 4, 1992

427

Mr. Alfred Sikes
Chairman
Federal Communications Commission
1919 M Street
Washington, D.C. 20554

Dear Chairman Sikes:

I recently received the enclosed constituent inquiry, and I would very much appreciate your providing me with any pertinent information you might have regarding the matter.

Your kind assistance is greatly appreciated.

Sincerely,

Lloyd Bentsen

Lloyd Bentsen

Enclosure

PLEASE REPLY TO:

961 Federal Building
Austin, Texas 78701
ATTN: Shane Linkous

City Public Service

of

San Antonio, Texas

January 6, 1992

The Honorable Lloyd Bentsen
United States Senate
Hart Building, Room 703
Washington, D.C. 20510

RE: Proposed re-allocation of the 1850-2200 MHz (2 GHz) band

Dear Senator Bentsen:

The Federal Communications Commission, on October 25, 1991, issued a Policy Statement and Order expressing its intention to re-allocate the radio frequency spectrum in the 2 GHz band for Personal Communications Networks (PCN).

This issue is critical to the Electric and Gas Utilities nationwide because of the vital information carried on some 3,700 microwave stations in the 2 GHz frequency band. The following is a brief description of the nature of this information:

- Protective relaying -- the ability to remotely detect and isolate electric transmission lines experiencing "fault" (outage) situations, within milliseconds.
- Forwarding of critical supervision and remote control data between and among a utility's substations, operations control centers, generating stations and other utilities.
- Controlling mobile radio base stations and other radio systems used for load control, environmental monitoring, and nuclear plant communications.
- Long and medium-haul remote data/voice communications.

A re-allocation of the 2 GHz microwave band would cost the citizens of San Antonio over $400,000. For all users to change to another radio frequency band would place a needless burden of over $4 billion on consumers.

Navarro at Villita/P.O. Box 1771 San Antonio, Texas 78296 (512) 227-3211

In addition to finances, right-of-ways, reliability, and a replacement spectrum for existing users are just a few of the major issues that will need to be resolved. Please review the enclosed report from the Utilities Telecommunications Council for a better understanding of these issues, and note that Texas is second only to California in the number of stations currently using these frequencies.

The times we live in demand fiscal restraint and the best utilization of resources from every sector of our economy. Please oppose any action the FCC might take to clear the 2 GHz frequency spectrum for PCN interests at the expense of our nation's public and private utilities.

Thank you for your consideration on this very important issue.

Sincerely,

Nick Flores, P. E.
Manager
Operations Department

NF:am

Enclosure

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EXECUTIVE SUMMARY OF THE FCC's DUAL THREAT TO THE 2 GHz MICROWAVE BAND

I. Background

A. What is the "2 GHz Microwave" Band?

- The 2 GHz microwave band is a portion of the radio spectrum located in the 1850-2200 MHz (1.85-2.2 GHz) band that has been allocated by the Federal Communications Commission (FCC) for use by point-to-point microwave systems.

B. How Do Utilities Use Microwave?

- Protective relaying -- the ability to remotely detect and isolate electric transmission lines experiencing "fault" (outage) situations, within milliseconds.

- Forwarding of critical telemetry data between and among a utility's substations, operations control centers, generating stations and other utilities.

- Controlling mobile radio base stations and other radio systems used for load control, environmental monitoring, and nuclear plant communications.

- Long and medium-haul remote data/voice communications.

C. Who Else Uses the 2 GHz Microwave Band?

- Other users of the band include the petroleum, railroad, telephone and broadcast industries as well as state and local governments.

II. What is the FCC's "Dual Threat" to the 2 GHz Band?

A. Threat One: the FCC's PCN Inquiry

- On October 25, 1991, the FCC issued a Policy Statement and Order expressing its intention to allocate spectrum in the 2 GHz band for Personal Communications Networks (PCN), an advance cellular telephone service commencing in 1992. A Rulemaking proceeding would have to be commenced before spectrum could be allocated to PCN.

B. Threat Two: the FCC's "Spectrum Reserve" Inquiry

- The FCC's Office of Engineering and Technology (OET), is studying the technical feasibility of "clearing" the

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2 GHz band of its existing users to create a "reserve" of spectrum for "emerging technologies," e.g., PCN.

- The OET study is to be completed by the end of November 1991. A Proposed Rulemaking to "clear" the 2 GHz band is expected by the end of 1991.

- OET has indicated it plans on "clearing" the 2 GHz band in the major urban areas within 3 years and have the entire band "cleared" within 10 years.

C. Does the FCC's PCN Policy Statement and Order Negate the Spectrum Reserve Threat?

- No, the spectrum reserve inquiry still has a life of its own. The FCC may decide to allocate a portion of the 2 GHz band to PCN as a result of its PCN Inquiry, and then clear the remainder of the 2 GHz band as a spectrum reserve for other "emerging technologies."

D. Does the Fact That Europe and Japan Are Advocating a World Wide Allocation of the 2 GHz Band for PCN at the 1992 World Administrative Radio Conference "Tie" the FCC's Hands"?

- No, the band is currently available in the Western hemisphere for both fixed and mobile licensing on a co-primary basis, and the official U.S. position is that it should remain this way. There is no need to allocate the entire 2 GHz band to land mobile, at most a sliver of spectrum would be sufficient to accommodate international roaming.

III. What Effect Would Loss of the 2 GHz Band Have on Utilities and Other Users?

A. What is the Total Amount of Equipment in this Band?

- Nationwide, there are about 20,000 2 GHz stations.

C. What are the Costs of "Clearing" this Band?

- At an average cost of $200,000 per station to relocate a 2 GHz microwave station to other, higher frequency bands or to fiber, the loss of the 2 GHz band would cost utilities, alone, close to $800 million in equipment purchases and operational transition costs.

- Nationwide, the cost of clearing this band of the estimated 20,000 stations would be in the billions.

D. Why Can't Utilities Simply Use Another Medium?

Other Microwave Bands

- Higher frequency microwave bands are less reliable than 2 GHz systems, are already heavily congested and may not accommodate all existing 2 GHz users, and require more "hops" (towers), causing increased expense.

Fiber Optics

- More expensive than microwave for low capacity needs, a continuous right-of-way is needed between end points, and alternate routing is required for redundancy.

Satellite

- The utility loses complete control over the entire communications link, and satellite's delays and rain outages are unacceptable for protective relaying.

Common Carrier Circuits

- The utility lacks complete control over the entire communications link, and common carrier is less reliable than private microwave systems, and often do not offer all of the services required by utilities.

IV. UTC's Position

A. If there is a real need for PCN or a "spectrum reserve" for emerging technologies, the FCC should select other bands where the impact on such a large number of existing stations would not be as severe.

B. Before the FCC decides to allocate spectrum for PCN or a spectrum reserve in any band, the following questions must be answered:

1. Is there adequate replacement spectrum to which the existing users can be relocated?

2. Since PCN is expected to develop, if at all, only in the major urban areas, why should incumbent users nationwide be forced to vacate the band, rather than allowing them to remain in the band on a co-equal, co-primary basis with PCN?

3. Who is going to pay the expense of relocating the existing users to another frequency or other communications medium?

4. Has a reasonable time period been provided to make the transition to another frequency or other communications medium?

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BASIS FOR IMPACT/COST ESTIMATES

I. The UTC Executive Summary Contains the Statement That:

> [T]he loss of the 2 GHz band would cost utilities, alone, close to $800 million in equipment purchases and operational transition costs.

II. Basis for Cost Estimates:

A. In a 1990 UTC survey of electric, gas and water utilities operating stations in the 1.85-2.20 GHz band, each licensee was asked:

> If you could no longer use the 1.8 or 2.1 GHz bands, what would be the total cost (for engineering, installation, site acquisition, equipment, etc.) to install replacement facilities or to obtain substitute service?

B. 142 utilities responded to the survey, collectively operating about 2,600 microwave stations in this band:

1. Aggregate cost for these survey respondents to replace their stations with other facilities or services -- about $577 million.

2. Average per station relocation cost -- about $220,000.

C. Based on UTC's review of FCC licensing records, there are about 3,700 utility-owned microwave stations in the 1.85-2.20 GHz band.

D. Therefore, the total cost to relocate all utility-owned microwave stations would be over $800 million (i.e., $220,000 x 3,700).

E. With over 20,000 microwave stations licensed in the 1.85-2.20 GHz band, the cost to relocate <u>all</u> users from the band would be well over $4 billion.

F. See Reverse for State by State Relocation Costs

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COST TO RELOCATE 2 GHz MICROWAVE STATIONS

STATE	NUMBER OF STATIONS	COST TO RELOCATE
Alabama	323	$65 Million
Alaska	322	$64 Million
Arizona	561	$112 Million
Arkansas	364	$73 Million
California	2,241	$448 Million
Colorado	629	$126 Million
Connecticut	93	$19 Million
Delaware	21	$4 Million
District of Columbia	31	$6 Million
Florida	850	$170 Million
Georgia	443	$89 Million
Hawaii	158	$32 Million
Idaho	241	$48 Million
Illinois	534	$107 Million
Indiana	310	$62 Million
Iowa	275	$55 Million
Kansas	275	$55 Million
Kentucky	369	$74 Million
Louisiana	754	$151 Million
Maine	93	$19 Million
Maryland	172	$34 Million
Massachusetts	136	$27 Million
Michigan	282	$56 Million
Minnesota	392	$78 Million
Mississippi	165	$33 Million
Missouri	505	$101 Million
Montana	238	$48 Million
Nebraska	295	$59 Million
Nevada	384	$77 Million
New Hampshire	64	$13 Million
New Jersey	100	$20 Million
New Mexico	600	$120 Million
New York	655	$131 Million
North Carolina	349	$70 Million
North Dakota	173	$35 Million
Ohio	430	$86 Million
Oklahoma	318	$64 Million
Oregon	414	$83 Million
Pennsylvania	676	$135 Million
Rhode Island	44	$9 Million
South Carolina	198	$40 Million
South Dakota	159	$32 Million
Tennessee	257	$51 Million
Texas	2,215	$443 Million
Utah	400	$80 Million
Vermont	46	$9 Million
Virginia	411	$82 Million
Washington	568	$114 Million
West Virginia	146	$29 Million
Wisconsin	348	$70 Million
Wyoming	354	$71 Million